



DEPARTMENT OF TRANSPORTATION
NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20591

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OFFICE OF
THE CHAIRMAN

September 14, 1970

Honorable John H. Shaffer
Administrator
Federal Aviation Administration
Washington, D. C. 20590

Dear Mr. Shaffer:

During the recent investigation of the ditching of the DC-9, AIM Flight 980, on May 2, 1970, near St. Croix, Virgin Islands, a deficiency in the function of passenger seatbelts was found. The seatbelts were of the metal-to-fabric type utilizing a serrated cam in the belt buckle as the latching mechanism. At least six passengers were thrown from their seats, although they had their seatbelts fastened. The suspected deficiency is that the fabric belt slipped through the buckle.

In 1964, the Federal Aviation Administration conducted a survey of this type of belt on recommendation from the Civil Aeronautics Board, and found that four percent of the belts were defective. At that time, FAA issued a directive which recommended to their field personnel that they put special emphasis on checking the adequacy of this type of belt. Since that time, the same deficiencies were noted in the accident involving United Air Lines at Norfolk, Virginia, in 1967, and in an in-flight turbulence incident involving a United Caravelle in 1965. In the latter incident, one of the four injured passengers died three days later.

Failure of such seatbelts to lock effectively under loading has been attributed to wear of the cam serrations. It is also thought by many that with acceleration conditions, flailing of the loose belt end may activate the cam and cause unwanted release of the belt. The demonstrated inadequacy of this seatbelt locking mechanism leads the Board to the conclusion that there is a serious question as to the reliability of this safety device.

Honorable John H. Shaffer

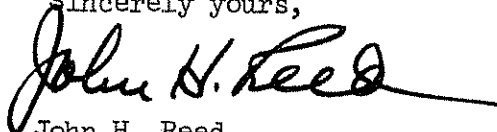
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Review of accident records over the last ten years reveals no indication of failure in the metal-to-metal type of seatbelt.

In view of the above, the Board recommends:

That the FAA take the necessary steps to eliminate, within a reasonable time, the use of fabric-to-metal type of seatbelts in aircraft of U. S. registry and require the metal-to-metal type of seatbelt with a standardized activating device.

Sincerely yours,

A handwritten signature in dark ink, appearing to read "John H. Reed", with a long horizontal flourish extending to the right.

John H. Reed
Chairman